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THE DIFFERENTIAL DIAGNOSIS BETWEEN GONOCOCCAL AND NON-GONOCOCCAL EPIDIDYMITIS

By KENNETH M. WALKER, F.R.C.S., Surgeon-in-Charge of Genito-Urinary Departments, Royal Northern Hospital and Miller General Hospital; Hon. Surgeon, St. Paul's Hospital.

THE DIFFERENTIAL DIAGNOSIS OF GONOCOCCAL AND NON-GONOCOCCAL EPIDIDYMITIS.

It is by no means always an easy matter to distinguish between the various forms of epididymitis that are met with in the out-patient department and the consulting room. Where a patient is obviously suffering from gonorrhœa no difficulty arises, but when there exist no signs of urethral trouble and the patient seeks help for a swelling of the epididymis, unassociated with urethritis, the cause of his trouble is often obscure. Is the epididymitis secondary to a gonococcal infection? Is it tuberculous, or is it a so-called idiopathic epididymitis due to infection with some such organism as staphylococcus, streptococcus, or the bacillus coli communis? The fact that the patient is apt to withhold a history of previous gonorrhœa, and even intentionally to mislead his doctor renders the task of differentiation still more difficult. For this reason it may not be unprofitable to discuss certain points that are of use in differential diagnosis.

DIFFERENTIAL DIAGNOSIS BETWEEN TUBERCULOUS AND NON-TUBERCULOUS INFLAMMATION OF THE EPIDIDYMITIS

Since the commonest error in diagnosis is to mistake a simple chronic epididymitis for a tuberculous one, this point will be discussed first. That the error is a frequent one is shown by the recently published analysis of case records from the Urological Department of the Belle Vue Hospital, New York. A study of these case sheets showed that twenty out of thirty-five cases of simple inflammation

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of the epididymis had been diagnosed as tuberculous. The converse error of mistaking a tuberculous for a non-tuberculous epididymitis had in no case been made. It is obvious, therefore, that greater care must be exercised in excluding the possibility of a gonococcal or idiopathic epididymitis before a diagnosis of tuberculosis is arrived at.

What are the signs on which reliance should be placed in arriving at a diagnosis of tubercle? The age of the patient offers no help, for in tuberculous and simple epididymitis the commonest period is during the third and fourth decades of life.

The history, if accurately given, is undoubtedly of value, but it must be remembered that a gonococcal infection of itself predisposes to tubercle, 39 per cent. of the cases in the Belle Vue Hospital that were proved to be tuberculous admitting to previous gonorrhoea. A history of trauma is equally common with gonococcal and non-gonococcal infections. More important is the discovery of a tuberculous focus elsewhere in the body, particularly in the lungs, lymphatic glands and bones. It must be taken as proven that genital tuberculosis is invariably secondary to a focus elsewhere in the body. When that focus is unhealed, as in the case of an active phthisis, the diagnosis becomes almost certain. In many cases, however, the primary focus may have become quiescent and may, therefore, not be detected during the clinical examination of the patient. Here the past history may be of service, and careful enquiries should be made for such illnesses as pleurisy, enlarged cervical glands, unexplained pyrexia, or a "delicate" childhood, in a person whose family history is suggestive of tubercle. After a careful investigation of the history and of the general condition of the patient the genito-urinary system must be overhauled. The necessity for including the whole urinary tract in this investigation is due to the fact that genital tuberculosis is very commonly associated with lesions in the urinary tract and especially in the kidney. Every effort must, therefore, be made to exclude the possibility that the epididymitis is merely a part of a general genito-urinary tuberculosis.

After palpating the kidney, ureters and bladder, and enquiring carefully for the existence of any disturbances of micturition, attention is next directed to the genitalia. If the epididymitis is bilateral the diagnosis of tubercu-

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losis is favoured, both epididymes being involved in 25 per cent. of the tuberculous cases already quoted, and in 11 per cent. of the non-tuberculous ones. The importance of nodulation and of a beaded vas in arriving at a diagnosis of tubercle is already well known. Still more suggestive are signs of adherence of the lower pole of the epididymis to the scrotum. Where this has progressed to a breaking down of the epididymis and the formation of an inflammatory sinus the diagnosis becomes practically certain, for abscess formation in a gonococcal epididymitis is extremely rare, although it occurs not infrequently with staphylococcal or bacillus coli infections. In the latter cases the formation of adhesions between the epididymis and the scrotum, the occurrence of an abscess and the formation of a sinus, are as common as in the case of tubercle. Indeed it has been my experience that staphylococcal infections of the testicle invariably end in abscess formation, although infections with streptococci and bacillus coli often subside.

The precise situation of the inflammatory nodule in the epididymis is in my opinion of no importance. When swelling is limited to one part of the epididymis it is almost always the lower pole that is affected, whether the inflammation be due to the gonococcus, to the tubercle bacillus, or to the other organisms mentioned above.

After a careful investigation of the testicles a rectal examination must be made, for by such means data of the highest value are obtainable. Contrary to what is usually believed it is commoner to find signs of trouble in the prostate and vesicles in tuberculous than in non-tuberculous cases. This, however, is true only if the lesion in the epididymis has existed for longer than a month. These matters are of so much importance that the tables published in the analysis of the Belle Vue Hospital, that has already been quoted so repeatedly, are appended below.

It will be seen from this that early cases (under one month) of tuberculous and non-tuberculous epididymitis show about an equal extent of involvement of the prostate and vesicles. However, as time elapses, these organs in tuberculosis continue to give palpable evidence of disease in about the same proportion of instances as is found in the earlier cases, whereas in simple inflammation they tend to become normal. Hence marked involvement of the prostate and seminal vesicles after epididymitis

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TABLE 1.—FINDINGS ON RECTAL EXAMINATIONS (62) OF TUBERCULOUS EPIDIDYMITIS CASES.

| Duration of epididymal disease. | Number of cases with rectal examination. | Number of epididymes involved. | Prostate involved. | Involvement of vesicle corresponding to diseased epididymes. | Involvement of either vesicle. | Involvement of neither vesicle. | Any involvement on rectal palpation. |
|---------------------------------|--|--------------------------------|--------------------|--|--------------------------------|---------------------------------|--------------------------------------|
| Under one month . | 16 | 17 | 11 | 11 | 12 | 3 | 13 |
| One to three months | 18 | 21 | 12 | 12 | 13 | 3 | 16 |
| Three to six months | 14 | 17 | 11 | 8 | 10 | 3 | 14 |
| Over six months . | 11 | 16 | 6 | 8 | 8 | 3 | 9 |
| Not stated . . . | 3 | 3 | 2 | 2 | 2 | 1 | 3 |
| Totals . . . | 62 | 74 | 42 | 41 | 45 | 13 | 55 |

TABLE 2.—FINDINGS ON RECTAL EXAMINATIONS (32) OF SIMPLE INFLAMMATORY EPIDIDYMITIS CASES.

| Duration of epididymal disease. | Number of cases with rectal examination. | Number of epididymes involved. | Prostate involved. | Involvement of vesicle corresponding to diseased epididymes. | Involvement of either vesicle. | Involvement of neither vesicle. | Any involvement on rectal palpation. |
|---------------------------------|--|--------------------------------|--------------------|--|--------------------------------|---------------------------------|--------------------------------------|
| Under one month . | 16 | 16 | 6 | 8 | 9 | 7 | 11 |
| One to three months | 3 | 4 | 0 | 1 | 1 | 2 | 1 |
| Three to six months | 8 | 9 | 3 | 4 | 4 | 4 | 5 |
| Over six months . | 5 | 7 | 1 | 0 | 0 | 4 | 1 |
| Totals . . . | 32 | 36 | 10 | 13 | 14 | 17 | 18 |

has existed over a month is evidence in favour of tuberculosis. After six months the evidence thus furnished is very strong. Should the prostate, the vesicles, or the ampulla of the vas be nodular or beaded, or should the vesicles exhibit the characteristic consistence of "tallow candle," the diagnosis is practically certain.

THE DIFFERENTIAL DIAGNOSIS BETWEEN GONOCOCCAL AND OTHER SIMPLE FORMS OF EPIDIDYMITIS

Just as there is a failure to recognise the fact that an attack of urethritis may result from infection by organisms other than the gonococcus so there is a similar failure on

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the part of some of the profession to realise that a simple epididymitis may not be a gonococcal one. All of us who deal largely with genito-urinary cases have had patients consulting us in a state of mental distress because they have been wrongly accused of having suffered from gonorrhœa. In some of them signs of urethritis exist and the cause of the epididymitis is revealed by a bacteriological investigation of the urine. In others there appears to be no lesion of the urethra whatever, and it is only when the prostate and vesicles are massaged and the expressed secretions examined microscopically that the primary focus is discovered. The importance, therefore, of rectal examination in these cases cannot be overstated. Frequently the lesion in the prostate or vesicles is a very mild one and yet it may be the cause of repeated attacks of epididymitis. I have had cases under my care that have suffered from such attacks for a period of over a year, and it was only when the primary source of their recurring infections was discovered and treated that any improvement was obtained. How the infecting organisms reach the epididymis from the central focus in the prostate or vesicles is a matter of great interest, but outside the scope of this paper. My own view is that they are mainly conveyed by the lymphatics running in the sheath of the vas. In a very bad case of recurrent epididymitis seen by me in consultation with Dr. A. Allport, and in which every effort to deal with the focus in the prostate provoked an attack of epididymitis, great benefit was finally obtained by performing an epididymectomy on one side and vasotomy on the other. The vasotomy in this case, and in others in which it has been carried out for a similar purpose, probably acts by breaking the path along which the invading organisms reach the epididymis. Clinically there exist no signs by which a chronic gonococcal epididymitis can be distinguished from an epididymitis due to some such other organism as a streptococcus. In both cases there is a craggy indurated swelling generally more marked at the lower pole of the epididymis. A similar description applies to many cases in which the infective agent is a staphylococcus, but in my own experience there is a greater tendency with this organism to abscess formation. In the case of a bacillus coli infection there usually exists a history of a previous attack of pyrexia, pains in the back, and micturition troubles due to infection of the

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urinary tract with the same organism. Not infrequently this previous attack has been diagnosed as "influenza," and it is only when the urine is examined and bacillus coli found that the true nature of the case is revealed.

CONCLUSIONS

The main points arrived at in the foregoing paper may be summarised for convenience under the following two headings :—

(1) Great care must be exercised in excluding other possibilities before a chronic epididymitis is labelled tuberculous. The signs on which most reliance may be placed are :

- (a) The existence of a tuberculous focus elsewhere in the body.
- (b) The involvement of both epididymes.
- (c) Beading of the vas.
- (d) Signs of breaking down.
- (e) Provided the epididymitis has lasted longer than a month, the existence of lesions in the prostate and vesicles.

(2) A chronic epididymitis that is non-tuberculous in nature is not necessarily due to a gonococcal infection. In such cases, and especially if the attacks of epididymitis be recurrent, the explanation of the trouble will usually be furnished by bacteriological examination of the expressed prostatic and vesicular secretions.